

U. S. NUCLEAR REGULATORY COMMISSION
INSPECTION REPORT

FACILITY DOCKET NO. 50-029
INSPECTION REPORT NO. 50-029/90-26
FACILITY LICENSE NO. DPR-03
LICENSEE: Yankee Atomic Electric Company
580 Main Street
Bolton, Massachusetts 01740-1398
FACILITY: Yankee Nuclear Power Station
INSPECTION DATES: December 4 - 6, 1990

INSPECTOR: *Brian Hugh* for *LEB* 12-27-90
Larry E. Briggs Date
Senior Operations Engineer, PWR Section

APPROVED BY: *David Hill* for *PWF* 12/27/90
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PWR Section, Operations Branch
Division of Reactor Safety

INSPECTION SUMMARY: Inspection on December 4 - 6, 1990 (Report 50-029/90-26)

AREAS INSPECTED: Routine, announced inspection of the corrective actions taken to address deficiencies identified during the EOP Team Inspection (Report 20-029/89-80) conducted November 6 - 14, 1989.

RESULTS: Of the seven items reviewed by the inspector four items were closed. The three items remaining open have some corrective actions yet to be taken for full closure. Corporate Engineering action is needed to close two of these items and site action is necessary to close the last item. The most significant action taken by the licensee was the complete revision of the Off Normal Operating Procedures (ONOPs) and the labeling of in-plant equipment. Significant improvement in the usability of these procedures was observed during procedure walk-downs.

DETAILS

1.0 PERSONS CONTACTED

- M. Desilets, Operations Training Supervisor
- *K. Heider, Reactor Engineering Manager
- *T. Henderson, Assistant Plant Superintendent
- *K. Jurentkuff, Plant Operations Manager
- *J. Kay, Technical Services Manager
- *G. Maret, Technical Director
- *D. May, Reactor Engineer/Shift Technical Advisor (STA)
- K. Purington, Licensed Reactor Operator
- L. Shepherd, Non-Licensed Operator
- *N. St. Laurent, Plant Superintendent
- *D. White, Operations Director
- *F. Williams, Operations Support Supervisor

*Denotes those present at the Exit Meeting held on December 6, 1990.

2.0 REVIEW OF EVENTS ASSOCIATED WITH DECEMBER 5, 1990 TRIP

On December 5, 1990, at about 7 a.m., the plant tripped from full power (100 percent) as a result of low steam generator (SG) levels. The low levels were a result of a loss of the main feedwater pumps on low suction pressure when the Heater Drain System water input was lost. This event is discussed in detail in the Resident Inspector Monthly Report, 50-029/90-25.

3.0 REVIEW OF EOP TEAM INSPECTION (50-029/89-80) OPEN ITEMS

Scope

The inspection was conducted to determine the adequacy of the licensee's corrective actions taken to address the findings of the EOP Team Inspection conducted November, 6 - 14, 1989. To evaluate the licensee's action the inspector performed a walk-down of selected UNOPs and EOP Attachments. The walkdowns were conducted with the assistance of a licensed and a non-licensed operator. In addition, management and program control documents were reviewed, as discussed in the following paragraphs.

Findings

CLOSED (029/89-80-01): Develop and implement ONOP to address a steam generator tube rupture (SGTR)/leak that is greater than Technical Specification limits but less than makeup capability.

The licensee has developed and implemented Operating Procedure (OP)-3107, Steam Generator Primary to Secondary Leak, which provides guidance to the operator to isolate the SG and prevent releases to the atmosphere.

The procedure is written to address leaks between 5 and 50 gallons per minute. The inspector found the procedure directions acceptable to ensure isolation of a SG tube leak.

CLOSED (029/89-80-02): Upgrade Deviation Justification documentation to more fully detail deviation from Westinghouse Emergency Response Guidelines (ERGs).

This item was discussed with the EOP coordinator and the proposed upgrade of the deviation documentation was reviewed. The written information provided to the inspector was found to be acceptable. It contained a detailed explanation of any differences. The information has not been fully incorporated into a formal document because the EOP coordinator is waiting for additional computer software. The additional software will enable the EOP coordinator to establish a system to update deviation documentation at the same time that EOP changes are made. Although this item will not be fully entered into the computer system until March 1991, the documentation has been fully developed.

CLOSED (029/89-80-03): Review use of Notes and Cautions and ensure compliance with Writer's Guide.

The Notes in question provided information to the operator to perform a rapid cooldown but not to exceed 100 degrees per hour. The original Note in the ERGs stressed a rapid cooldown to avoid losing reactor coolant pumps (RCPs) due to continued depressurization through the SGTR. The EOP coordinator provided deviation justification and background documentation to prove that the Notes in question were only for information to the operator to perform a rapid cooldown. The Yankee Rowe facility has canned rotor Main Coolant Pumps (MCPs) and are not subject to the same pressure restrictions that apply to later model RCPs. The notes, by Writer's Guide, are for information only. Cautions are provided to prevent equipment damage and/or protect personnel. The inspector determined that the Notes were properly used.

CLOSED (029/89-80-04): Correct in-plant labeling of equipment associated with the performance of EOPs, ONOPs, and procedures directly referenced by the EOPs.

The inspector observed the valve and component labeling during the walk-down of the in-plant portion of the following ONOPs and EOP Attachments.

OP-2501, Restoration of Normal AC Power After a Total Loss of AC, Revision, 19

OP-3111, Malfunction of Primary Pressure or Level Channels, Revision 14

OP-3251, Loss of AC Supply, Revision 26

OP-3254, Total Loss of AC With Shutdown Cooling in Service, Revision 16

FR-H.1, Attachments 4,5,6 and 7, Revision 0.1

The inspector noted a significant improvement in the in-plant labeling of equipment, components and valves. All components required to be operated by procedure were properly labeled.

OPEN (029/89-80-05): Review level of detail of EOPs and their attachments and Report 50-029/89-80, Attachment 2 deficiencies. Incorporate appropriate changes. Provide means of verifying Emergency Buses are energized.

The inspector reviewed E-3, Steam Generator Tube Rupture; ECA-0.0, Loss of All AC Power; and, FR-H.1, Response to Loss of Secondary Heat Sink. All procedures were Revision 0.1. The EOPs reviewed by the inspector contained the appropriate level of detail and specified when local action was required. Attachments that were walked-down (Item 029/89-80-04 above) specified locations of components as needed. The inspector requested documentation of plans or a copy of the design change that would incorporate white power-indicating lights on the vital bus mimic as stated by the licensee during the EOP team exit meeting. This item will remain open until formal documentation of the proposed design change is provided to the NRC.

OPEN (029/89-80-06): Develop and implement an EOP Maintenance Program and an objective means to determine the level and type of operator training required to address revisions to the EOPs.

The inspector reviewed memorandum EP 89.38, dated January 9, 1990, from the EOP Coordinator to the Plant Manager and the corporate engineering representative. This memo gave guidance for the establishment of an EOP maintenance program. Procedure No. DP-7020, EOP Maintenance, dated April, 1990, was developed for the on-site portion of the EOP maintenance program by the EOP Coordinator using the guidance of the EP 89.38 memo. Also, within Procedure No. DP-7020 is an objective means (matrix) to determine the level and type of operations training required to address EOP changes. The inspector also asked for the corporate engineering department procedures that provide the administrative control to ensure that the effect of engineering department activities, relative to the EOPs and their Bases, are considered. The EOP coordinator informed the inspector that the requested documents were currently in the corporate review and approval process and were not yet available for review. The inspector determined that the on-site portion of the EOP maintenance program was acceptable. However, this item will remain open until the corporate documents that address their participation in the EOP maintenance program have been reviewed by the NRC.

OPEN (029/89-80-07): Perform in-plant walkdowns of all ONOPs and EOP attachments and all procedures directly referenced by the EOPs. Revise AP-0001 to require in-plant walkdowns of Operating Procedures during their biennial review.

A walkdown of the procedures identified under item 029/89-80-04 was performed by the inspector, accompanied by a licensee representative, to verify licensee corrective action. The inspector found that an extensive revision of the procedures selected had been performed. The revisions were so extensive that correlation between the specific comments in Attachment 2 of the EOP Team Inspection Report (50-029/89-80) and the procedure could not be made by the inspector. The usability of the procedures was very much improved, with correct component locations, and valve and component labeling in agreement with procedural steps. The licensee has also revised AP-0001 to require a walkdown of Operations Department procedures. However, there is no formal control of what things to look for or a signature requirement for the person performing the walkdown. The Operations Support Group (OSG) has a form that it provides which is filled out and signed by the person conducting the walkdown. The form appeared to be acceptable; however, it is not formally controlled. Appendix A of DP-7020 does provide specific instruction and a controlled form to use during EOP walkdown validations. This item will remain open until formal controls of Operation's Procedure walkdowns are developed by the licensee and reviewed by the NRC.

4.0 EXIT MEETING

At the conclusion of the site inspection, on December 6, 1990, an exit meeting was held with the licensee's senior available representatives (denoted in Paragraph 1.0) to discuss the scope and findings as detailed in this report.

Written material was not provided to the licensee at any time during this inspection by the inspector. Based on the NRC Region I review of this report and discussions held with the licensee representatives during this inspection, it was determined that this report does not contain information subject to 10CFR 2.790 restrictions.